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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,270	12/20/2001	Christopher W. Jones	T-6066	6523

7590 05/05/2004

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EXAMINER

SAMPLE, DAVID R

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,270

Applicant(s)

JONES ET AL.

Examiner

David Sample

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-28, 31-43 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46 is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-28 and 31-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The rejections made in the previous Office action, and not repeated below, are hereby withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-13, 16-28, 31-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The present claims contain the recitation that the molecular sieve may be a “zincosilicate”. The specification, as originally filed, fails to describe the broad genus of “zincosilicates”. Rather, the specification only mentions treating CIT-6 (see page 14, 9-12) which is a single species of the class of “zincosilicate” materials. The disclosure of a single species is inadequate written support for the entire genus of materials in the present instance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12, 16-25, 27, 31-40 and 42 are rejected under 35 U.S.C. § 103(a) over Benazzi et al. (US Patent No. 6,165,439).

Benazzi et al. discloses a method of treating a zeolite in which zeolite NU-86 is calcined to remove the organic templating agent, and the calcined zeolite is treated with a mineral acid solution or a solution of $\text{CH}_3\text{CO}_2\text{H}$ (acetic acid). See col. 3, lines 44-50, and Examples 1, 3, 5, and 6.

Benazzi et al. discloses that the material to be treated comprises an element T which may be boron (among others). See the abstract. The reference further discloses that the zeolite contains silicon. Thus, the reference suggests treating "borosilicates."

Benazzi et al. differs from the instant claims by teaching that T may be boron among a list of other possible T atoms. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected any of the T atoms disclosed by Benazzi et al. because boron is among the list of T atoms.

As to claims 2, 17, and 32, the reference discloses calcining the zeolite. See col. 3, lines 44-50, and Examples 1, 3, 5, and 6.

As to claims 3-7, 18-22, and 33-37, the reference discloses treating the zeolite with a mineral acid such as nitric, sulfuric, or hydrochloric. See col. 3, lines 24-26.

As to claims 8, 9, 23, 24, 38 and 39, the reference fails to specifically disclose employing an acid solution that has a pH below the isoelectric point of silica. However, Benazzi et al. discloses employing a 0.8 N nitric acid solution. See Example 3, col. 7, line 31. The examiner calculates that a 0.8 N nitric acid solution would have a pH of 0.1. This pH anticipates the range recited in claims 9, 24, and 39. For this reason, the reference is deemed to inherently disclose that the acid medium has a pH below the isoelectric point of silica. See MPEP 2112.

As to claims 10, 25, and 40, the reference discloses employing a temperature of "about 100°C". See col. 7, line 32. This disclosure is deemed to anticipate the claim recitation of "about 135°C" in view of the latitude in interpreting the word "about" in claims and the prior art.

As to claim 12, 27, and 42, the reference discloses treating a zeolite having the NU-86 structure. See the title and the abstract, and col. 1, lines 58-65.

The examiner notes that the reference fails to disclose that the treatment results in an increase of the hydrophobicity of the zeolite as recited in instant claim 16. However, the reference performs a process that is identical to the presently claimed process. Since the process of the reference is identical to the present process, it is assumed that the process of the reference inherently results in an increase in the hydrophobicity of the zeolite. See MPEP 2112.

The reference fails to disclose the recitations of instant claim 41. However, this claim is a product-by-process claim which is not limited to the manipulation of the recited steps for patentability, only the structure implied by the steps. See MPEP 2113. In the present instance, it is unclear to the examiner what structure is implied by the steps. However, the reference is presumed to disclose a material that is identical to presently claimed material.

Claims 1-3, 6-13, 16-18, 21-28, and 31-43 are rejected under 35 U.S.C. 103(a) as unpatentable over Chen et al. (US Patent No. 6,468,501 B).

Chen et al discloses a method of treating large pore or extra large pore borosilicate zeolites in which the borosilicate zeolite is calcined (i.e., heated to remove the organic template) and subsequently acid treated at a temperature of ambient to 300°C. See the abstract and Examples 1-2. This temperature range of acid treatment is deemed to render obvious the recitation of “heating” in the sense that the disclosure of the reference is an overlapping range of temperature, and overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

The recitations of claims 2, 17, 32 can be found in the reference in the abstract.

The recitations of claims 3, 6, 7, 18, 21, 22, 33, 36, and 37 can be found in the reference at col. 5, lines 10-13.

The recitations of claims 10, 11, 25, 26, 40, and 41 can be found in the abstract of the reference.

The recitations of claims 12, 27, and 42 can be found in the abstract of the reference.

As to claims 13, 28 and 43, the reference fails to disclose the recited zeolite species, however, the reference is directed to large pore zeolites. See the abstract. Zeolite beta is a large pore zeolite. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed any large pore zeolite in the process of Chen et al., including zeolite beta, because zeolite beta is a large pore zeolite.

Response to Arguments

Applicant's arguments filed February 2, 2004 have been fully considered but they are not persuasive.

Applicants assert that the disclosure in Benazzi et al. of employing T elements other than aluminum is insufficient for one of ordinary skill in the art to predict what will happen to the materials when treated with acid. This argument is not deemed persuasive. The reference clearly envisages boron as a possible T element. Moreover, references are presumed enabled. Therefore, it would have been obvious to one of ordinary skill in the art to have employed any of the T atoms, including boron.

Applicants assert that the range of "about 100°C" disclosed by the reference is insufficient to render obvious the temperature of 135°C. This argument is not deemed persuasive. Applicants' claims 10, 25 and 40 recite a temperature of "about 135°C" and the reference discloses employing a temperature of "about 100°C." In view of the latitude in interpreting the word "about" in each instance (i.e., the claims and the prior art), some overlap appears to exist.

As to the range of 160-185°C, the examiner agrees with applicants, and these claims are not presently rejected over Benazzi et al.

Allowable Subject Matter

Claim 46 is allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

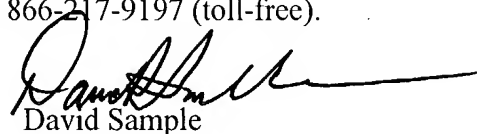
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (571)272-1368. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "David Sample", is written over the printed name.

David Sample
Primary Examiner
Art Unit 1755